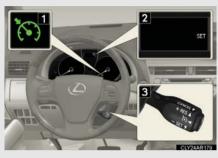
Use the cruise control to maintain a set speed without depressing the accelerator pedal.



- 1 Indicator
- 2 Display
- Cruise control switch

■ Setting the vehicle speed



Press the "ON-OFF" button to activate the cruise control.

- Cruise control indicator will come on.
- Press the button again to deactivate the cruise control.

2-4. Using other driving systems



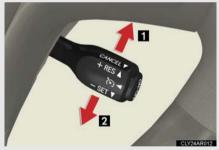
Accelerate or decelerate the vehicle to the desired speed, and push the lever down to set the speed.

"SET" will be displayed.

The vehicle speed at the moment the lever is released becomes the set speed.

Adjusting the set speed

To change the set speed, operate the lever until the desired set speed is obtained.



- 1 Increases the speed
- 2 Decreases the speed

Fine adjustment: Momentarily move the lever in the desired direction.

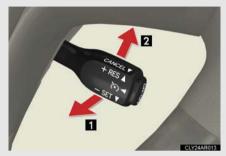
Large adjustment: Hold the lever in the desired direction.

The set speed will be increased or decreased as follows:

Fine adjustment: By approximately 1 mph (1.6 km/h) each time the lever is operated.

Large adjustment: The set speed can be increased or decreased continually until the lever is released.

Canceling and resuming the constant speed control



• Pulling the lever towards you cancels the constant speed control.

The speed setting is also canceled when the brakes are applied.

2 Pushing the lever up resumes the constant speed control.

Resuming is available when the vehicle speed is more than approximately 25 mph (40 km/h).

■ Cruise control can be set when

- The shift lever is in D or range 4 or higher of S has been selected.
- Vehicle speed is above approximately 25 mph (40 km/h).

Accelerating after setting the vehicle speed

- The vehicle can be accelerated normally. After acceleration, the set speed resumes.
- Even without canceling the cruise control, the set speed can be increased by first accelerating the vehicle to the desired speed and then pushing the lever down to set the new speed.

■ Automatic cruise control cancelation

Cruise control will stop maintaining the vehicle speed in any of the following situations.

- Actual vehicle speed falls more than approximately 10 mph (16 km/h) below the preset vehicle speed.
 - At this time, the memorized set speed is not retained.
- Actual vehicle speed is below approximately 25 mph (40km/h).
- Enhanced VSC is activated. (vehicles with enhanced VSC)
- VSC is activated. (vehicles with VSC)

■ If the cruise control indicator light flashes

Press the "ON-OFF" button once to deactivate the system, and then press the button again to reactivate the system.

If the cruise control speed cannot be set or if the cruise control cancels immediately after being activated, there may be a malfunction in the cruise control system. Have the vehicle inspected by your Lexus dealer.

■ To avoid operating the cruise control by mistake

Switch the cruise control off using the "ON-OFF" button when not in use.

■ Situations unsuitable for cruise control

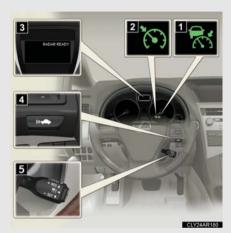
Do not use cruise control in any of the following situations.

Doing so may result in loss of control and could cause an accident resulting in death or serious injury.

- In heavy traffic
- On roads with sharp bends
- On slippery roads, such as those covered with rain, ice or snow
- On winding roads
- On steep hills
 Vehicle speed may exceed the set speed when driving down a steep hill.
- When your vehicle is towing a trailer or during emergency towing

Dynamic radar cruise control*

Dynamic radar cruise control supplements conventional cruise control with a vehicle-to-vehicle distance control. In the vehicle-to-vehicle distance control mode, the vehicle automatically accelerates or decelerates in order to maintain a set following distance from vehicles ahead.



- Indicator (vehicle-to-vehicle distance control mode)
- Indicator (constant speed control mode)
- 3 Display
- 4 Vehicle-to-vehicle distance switch
- **5** Cruise control switch

Setting the vehicle speed (vehicle-to-vehicle distance control mode)



Press the "ON-OFF" button to activate the cruise control.

Radar cruise control indicator will come on.

Press the button again to deactivate the cruise control.



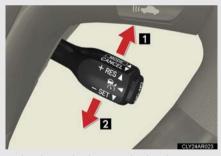
Accelerate or decelerate the vehicle to the desired speed, and push the lever down to set the speed.

"SET" will be displayed.

The vehicle speed at the moment the lever is released becomes the set speed.

Adjusting the speed setting

To change the set speed, operate the lever until the desired set speed is displayed.



- 1 Increases speed
- 2 Decreases speed

Fine adjustment: Momentarily move the lever in the desired direction.

Large adjustment: Hold the lever in the desired direction.

In the vehicle-to-vehicle distance control mode, the set speed will be increased or decreased as follows:

► When the set speed is shown in "MPH"

Fine adjustment: By approximately 1 mph (1.6 km/h) each time the lever is operated

Large adjustment: By approximately 5 mph (8 km/h) for each 0.75 seconds the lever is held

▶ When the set speed is shown in "km/h"

Fine adjustment: By approximately 0.6 mph (1 km/h) each time the lever is operated

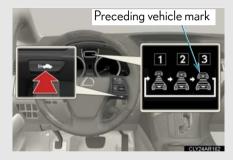
Large adjustment: By approximately $3.1 \, \text{mph} (5 \, \text{km/h})$ for each $0.75 \, \text{seconds}$ the lever is held

In the constant speed control mode (\rightarrow P. 228), the set speed will be increased or decreased as follows:

Fine adjustment: By approximately 1 mph (1.6 km/h) each time the lever is operated

Large adjustment: The set speed can be increased or decreased continually until the lever is released.

■ Changing the vehicle-to-vehicle distance



Pressing the button changes the vehicle-to-vehicle distance as follows:

- 1 Long
- 2 Medium
- **3** Short

The vehicle-to-vehicle distance is set automatically to long mode when the "ENGINE START STOP" switch is turned to IGNITION ON mode.

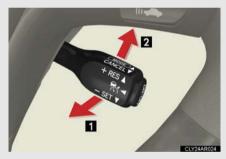
If a vehicle is running ahead of you, the preceding vehicle mark will also be displayed.

■ Vehicle-to-vehicle distance settings

Select a distance from the table below. Note that the distances shown correspond to a vehicle speed of 50 mph (80 km/h). Vehicle-to-vehicle distance increases/decreases in accordance with vehicle speed.

Distance options	Vehicle-to-vehicle distance
Long	Approximately 164 ft. (50 m)
Medium	Approximately 132 ft. (40 m)
Short	Approximately 82 ft. (25 m)

Canceling and resuming the speed control



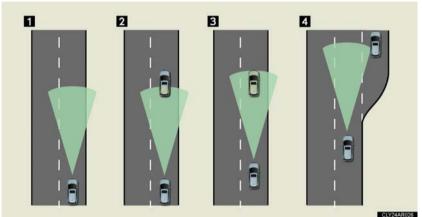
- 1 Pulling the lever toward you cancels the cruise control.
 - The speed setting is also canceled when the brakes are applied.
- Pushing the lever up resumes the cruise control and returns vehicle speed to the set speed.

Resuming is available when the vehicle speed is more than approximately 25 mph (40 km/h).

Driving in vehicle-to-vehicle distance control mode

This mode employs a radar sensor to detect the presence of vehicles up to approximately 400ft. (120 m) ahead, determines the current vehicle-to-vehicle following distance, and operates to maintain a suitable following distance from the vehicle ahead.

Note that vehicle-to-vehicle distance will close in when traveling on long downhill slopes.



Example of constant speed cruising When there are no vehicles ahead

The vehicle travels at the speed set by the driver. The desired vehicle-to-vehicle distance can also be set by operating the vehicle-to-vehicle distance control.

Example of deceleration cruising

When the vehicle ahead is driving slower than the set speed

When a vehicle is detected running ahead of you, the system automatically decelerates your vehicle. When a greater reduction in vehicle speed is necessary, the system applies the brakes. A warning tone warns you when the system cannot decelerate sufficiently to prevent your vehicle from closing in on the vehicle ahead.

Example of follow-up cruising

When following a vehicle driving slower than the set speed

The system continues follow-up cruising while adjusting for changes in the speed of the vehicle ahead in order to maintain the vehicle-to-vehicle distance set by the driver.

4 Example of acceleration

When there are no longer any vehicles ahead driving slower than the set speed

The system accelerates until the set speed is reached. The system then returns to constant speed cruising.

Approach warning

When your vehicle is too close to a vehicle ahead, and sufficient automatic deceleration via the cruise control is not possible, the display will flash and the buzzer will sound to alert the driver. An example of this would be if another driver cuts in front of you while you are following a vehicle. Apply the brakes to ensure an appropriate vehicle-to-vehicle distance.

■ Warnings may not occur when

In the following instances, there is a possibility that the warnings will not occur:

- When the speed of the vehicle ahead matches or exceeds your vehicle speed
- When the vehicle ahead is traveling at an extremely slow speed
- Immediately after the cruise control speed was set
- At the instant the accelerator is applied

Selecting conventional constant speed control mode

Constant speed control mode differs from vehicle-to-vehicle distance control mode. When constant speed control mode is selected, your vehicle will maintain a set speed regardless of whether or not there are other vehicles in the lane ahead.



■ Press the "ON-OFF" button to activate the cruise control.

Radar cruise control indicator will come on.

Press the button again to deactivate the cruise control.

Switch to constant speed control mode.

(Push the lever forward and hold for approximately one second.)

Constant speed control mode indicator will come on.

When in constant speed control mode, to return to vehicle-to-vehicle distance control mode, push the lever forward again and hold for approximately 1 second.

After the desired speed has been set, it is not possible to return to vehicle-to-vehicle distance control mode.

If the "ENGINE START STOP" switch is turned off and then turned to IGNITION ON mode again, the vehicle will automatically return to vehicle-to-vehicle distance control mode.

Adjusting the speed setting: →P. 223

Canceling and resuming the speed setting: \rightarrow P. 225

■ Dynamic radar cruise control can be set when

- The shift lever is in the D or range 4 or higher of S has been selected.
- Vehicle speed is above approximately 30 mph (50 km/h).

Accelerating after setting the vehicle speed

The vehicle can accelerate normally. After acceleration, the set speed resumes.

However, during vehicle-to-vehicle distance control mode, the vehicle speed may decrease below the set speed in order to maintain the distance to the vehicle ahead.

■ Automatic cancelation of vehicle-to-vehicle distance control

Vehicle-to-vehicle distance control driving is automatically canceled in the following situations:

- Actual vehicle speed falls below approximately 25 mph (40 km/h).
- Enhanced VSC is activated. (vehicles with enhanced VSC)
- ullet VSC is activated. (vehicles with VSC)
- The sensor cannot operate correctly because it is covered in some way.
- The windshield wipers are operating at high speed (when the wiper switch is set to the "AUTO" mode or the high speed wiper operation position).
- When snow mode is set.

If vehicle-to-vehicle distance control driving is automatically canceled for any other reason, there may be a malfunction in the system. Contact your Lexus dealer.

Automatic cancelation of constant speed control

The cruise control will stop maintaining the vehicle speed in the following situations:

- Actual vehicle speed is more than approximately 10 mph (16 km/h) below the set vehicle speed.
 - At this time, the memorized set speed is not retained.
- Vehicle speed falls below approximately 25 mph (40 km/h).
- Enhanced VSC is activated. (vehicles with enhanced VSC)
- VSC is activated. (vehicles with VSC)

■ Radar sensor and grille cover

Always keep the sensor and grille cover clean to ensure that the vehicle-to-vehicle distance control operates properly. (Some obstructions, such as snow, ice and plastic objects, cannot be detected by the obstruction sensor.)

Dynamic radar cruise control is canceled if an obstruction is detected.



- 1 Grille cover
- 2 Radar sensor

■ Warning lights, messages and buzzers for dynamic radar cruise control

Warning lights, messages and buzzers are used to indicate a system malfunction or to inform the driver of the need for caution while driving. $(\rightarrow P. 574)$

■ Certification

For vehicles sold in U.S.A.

FCC ID: HYODNMWR005

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC WARNING

Changes or modifications not expressly approved by the party responsible for compliance could void the use's authority to operate the equipment.

Radiofrequency radiation exposure Information:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance of 20 cm between the radiator (antenna) and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

For vehicles sold in Canada

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

A CAUTION

■ Before using dynamic radar cruise control

Do not overly rely on vehicle-to-vehicle distance control.

Be aware of the set speed. If automatic deceleration/acceleration is not appropriate, adjust the vehicle speed, as well as the distance between your vehicle and vehicles ahead by applying the brakes etc.

Cautions regarding the driving assist systems

Observe the following precautions.

Failure to do so may cause an accident resulting in death or serious injury.

- Assisting the driver to measure following distance The dynamic radar cruise control is only intended to help the driver in determining the following distance between the driver's own vehicle and a designated vehicle traveling ahead. It is not a mechanism that allows careless or inattentive driving, and it is not a system that can assist the driver in low-visibility conditions. It is still necessary for driver to pay close attention to the vehicle's surroundings.
- Assisting the driver to judge proper following distance The dynamic radar cruise control determines whether the following distance between the driver's own vehicle and a designated vehicle traveling ahead is appropriate or not. It is not capable of making any other type of judgement. Therefore, it is absolutely necessary for the driver to remain vigilant and to determine whether or not there is a possibility of danger in any given situation.
- Assisting the driver to operate the vehicle The dynamic radar cruise control has no capability to prevent or avoid a collision with a vehicle traveling ahead. Therefore, if there is ever any danger, the driver must take immediate and direct control of the vehicle and act appropriately in order to ensure the safety of all involved.
- To avoid inadvertent cruise control activation

Switch the cruise control off using the "ON-OFF" button when not in use.

■ Situations unsuitable for dynamic radar cruise control

Do not use dynamic radar cruise control in any of the following situations.

Doing so may result in inappropriate speed control and could cause an accident resulting in death or serious injury.

- In heavy traffic
- On roads with sharp bends
- On winding roads
- On slippery roads, such as those covered with rain, ice and snow
- On steep downhills, or where there are sudden changes between sharp up and down gradients

Vehicle speed may exceed the set speed when driving down a steep hill.

- At entrances to expressways
- When weather conditions are bad enough that they may prevent the sensors from functioning correctly (fog, snow, sandstorm, heavy rain, etc.)
- When an approach warning buzzer is heard often
- When your vehicle is towing a trailer or during emergency towing

■ When the sensor may not be correctly detecting the vehicle ahead

Apply the brakes as necessary when any of the following types of vehicles are in front of you.

As the sensor may not be able to correctly detect these types of vehicles, the approach warning (\rightarrow P. 227) will not be activated, and may cause an accident resulting in death or serious injury.

- Vehicles that cut in suddenly
- Vehicles traveling at low speeds
- Vehicles that are not moving
- Vehicles with small rear ends (trailers with no load on board etc.)
- Motorcycles traveling in the same lane

Conditions under which the vehicle-to-vehicle distance control may not function correctly

Apply the brakes as necessary in the following conditions as the radar sensor may not be able to correctly detect vehicles ahead, and may cause an accident resulting in death or serious injury:

- When water or snow thrown up by the surrounding vehicles hinders the functioning of the sensor
- When your vehicle is pointing upwards (caused by a heavy load in the luggage compartment etc.)
- When the road curves or when the lanes are narrow
- When steering wheel operation or your position in the lane is unstable
- When the vehicle ahead of you decelerates suddenly

■ Handling the radar sensor

Observe the following to ensure the cruise control system can function effectively.

Otherwise, the system may not function correctly and may cause an accident resulting in death or serious injury.

- Keep the sensor and grille cover clean at all times.
 Clean the sensor and grille cover with a soft cloth so you do not mark or damage them.
- Do not subject the sensor or surrounding area to a strong impact. If the sensor moves even slightly off position, the system may malfunction. If the sensor or surrounding area is subject to a strong impact, always have the area inspected and adjusted by a Lexus dealer.
- Do not disassemble the sensor.
- Do not attach accessories or stickers to the sensor, grille cover or surrounding area.
- Do not modify or paint the sensor and grille cover.
- Do not replace them with non-genuine parts.

2-4. Using other driving systems Intuitive parking assist*

The distance to obstacles measured by the sensors is communicated via the multi-information display and a buzzer when parallel parking or maneuvering into a garage is conducted. Always check the surrounding area when using this system.

■ Types of sensors



- Front corner sensors
- Rear corner sensors
- **B** Rear center sensors

Setting the intuitive parking assist mode



- 1 Press the menu switch.

 The multi-information display will change modes to electronic features control mode.
- ☑ Press the "ENTER" switch upwards or downwards until the intuitive parking assist mark appears in the multiinformation display.

2-4. Using other driving systems



Press the "ENTER" switch to change to "ON".

The intuitive parking assist indicator will be displayed.

Each pressing of the switch turns the intuitive parking assist on and off.

When on, the buzzer sounds to inform the driver that the system is operational.

Press the menu switch to change to the normal display.

Display

When the sensors detect an obstacle, the graphic is shown on the multiinformation display depending on the position and distance to the obstacle.



- 11 Front corner sensor operation
- 2 Rear corner sensor operation
- **3** Rear center sensor operation

The distance display and buzzer

When a sensor detects an obstacle, the direction of and the approximate distance to the obstacle are displayed and the buzzer sounds.

Front corner sensors

Detection level	Multi-information display	Approximate distance to obstacle	Buzzer
2		2.0 to 1.6 ft. (60 to 47.5 cm)	Medium
3		1.6 to 1.2 ft. (47.5 to 35 cm)	Fast
4	Ē	1.2 ft. (35 cm) or less	Continuous

Rear corner sensors

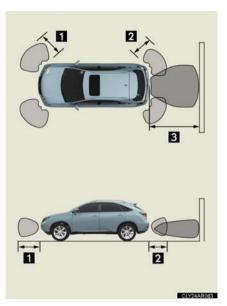
Detection level	Multi-information display	Approximate distance to obstacle	Buzzer
2		1.6 to 1.2 ft. (50 to 37.5 cm)	Medium
3	٥	1.2 to 0.8 ft. (37.5 to 25 cm)	Fast
4	<u>a</u>	0.8 ft. (25 cm) or less	Continuous

2-4. Using other driving systems

■ Rear center sensors

Detection level	Multi-information display	Approximate distance to obstacle	Buzzer
1		4.9 to 2.0 ft. (150 to 60 cm)	Slow
2		2.0 to 1.5 ft. (60 to 45 cm)	Medium
3		1.5 to 1.2 ft. (45 to 35 cm)	Fast
4	Ē	1.2 ft. (35 cm) or less	Continuous

Detection range of the sensors



- Approximately 2.0 ft. (60 cm)
- 2 Approximately 1.6 ft. (50 cm)
- Approximately 4.9 ft. (150 cm)

The diagram shows the detection range of the sensors. Note that the sensors cannot detect obstacles that are extremely close to the vehicle.

The range of the sensors may change depending on the shape of the object etc.

■ The intuitive parking assist can be operated when

- Front corner sensors:
 - The "ENGINE START STOP" switch is in IGNITION ON mode.
 - The shift lever is in a position other than P.
 - The vehicle speed is less than about 6 mph (10 km/h).
- Rear corner and center sensors:
 - The "ENGINE START STOP" switch is in IGNITION ON mode.
 - The shift lever is in R.

■ Sensor detection information

- Certain vehicle conditions and the surrounding environment may affect the ability of a sensor to correctly detect an obstacle. Particular instances where this may occur are listed below.
 - There is dirt, snow or ice on a sensor.
 - A sensor is frozen.
 - · A sensor is covered in any way.
 - The vehicle is leaning considerably to one side.
 - On an extremely bumpy road, on an incline, on gravel, or on grass
 - The vicinity of the vehicle is noisy due to vehicle horns, motorcycle engines, air brakes of large vehicles, or other loud noises producing ultrasonic waves.
 - There is another vehicle equipped with parking assist sensors in the vicinity.
 - · A sensor is coated with a sheet of spray or heavy rain.
 - The vehicle is equipped with a fender pole or radio antenna.
 - · Towing eyelets are installed.
 - A bumper or sensor receives a strong impact.
 - The vehicle is approaching a tall or right-angled curb.
 - In harsh sunlight or intense cold weather.
 - A non-genuine Lexus suspension (lowered suspension, etc.) is installed.

In addition to the examples above, there are instances in which, because of their shapes, signs and other objects may be judged by a sensor to be closer than they are.

- The shape of the obstacle may prevent a sensor from detecting it. Pay particular attention to the following obstacles:
 - Wires, fences, ropes, etc.
 - · Cotton, snow and other materials that absorb sound waves
 - · Sharply-angled objects
 - · Low obstacles
 - Tall obstacles with upper sections projecting outwards in the direction of your vehicle

■ If a warning message is displayed

 \rightarrow P. 568

■ Certification (Canada only)

This ISM device complies with Canadian ICES-001.

■ Customization

Settings (e.g. buzzer volume) can be changed. (Customizable features \rightarrow P. 645)

A CAUTION

Caution when using the intuitive parking assist

Observe the following precautions.

Failing to do so may result in the vehicle being unable to be driven safely and possibly cause an accident.

- Do not use the sensor at speeds in excess of 6 mph (10 km/h).
- Do not attach any accessories within the sensor range.

№ NOTICE

■ Notes when washing the vehicle

Do not apply intensive bursts of water or steam to the sensor area.

Doing so may result in the sensor malfunctioning.

■ Conditions possibly indicating system malfunctions

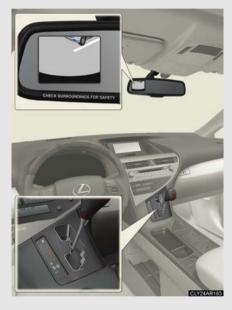
If any of the following occurs, the system may be malfunctioning due to a sensor failure etc. Have the vehicle inspected by your Lexus dealer.

- The buzzer does not sound when the intuitive parking assist mode is set.
- The sensor operation display flashes and the buzzer sounds even when no obstacle is detected.
- An area of the sensors is hit or subjected to a strong impact.
- Either bumper is hit.
- The sensor operation display remains on even though no buzzer sounds.

2-4. Using other driving systems

Rear view monitor system (rear view mirror-attached type)*

The rear view monitor system assists the driver by displaying an image of the area behind the vehicle. The image is displayed in reverse on the screen. This reversed image is a similar image to the one on the inside rear view mirror.



The rear view image is displayed when the shift lever is in the R position.

If the shift lever is shifted out of R, the screen is turned off.

■ The rear view monitor system can be operated when

The "ENGINE START STOP" switch is in IGNITION ON mode and the back door is fully closed.

■ Switching the screen on/off



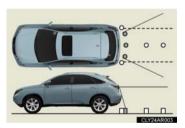
When the screen is displayed, press the "AUTO" button on the inside rear view mirror to switch the screen on/off

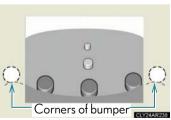
Screen on: Green indicator comes on.

Screen off: Orange indicator comes on.

The auto anti-glare inside rear view mirror will revert to the screen on each time the "ENGINE START STOP" switch to the IGNITION ON mode.

■ Displayed area





The area covered by the camera is limited. Objects that are close to either corner of the bumper or under the bumper cannot be seen on the screen.

The area displayed on the screen may vary according to vehicle orientation or road conditions.

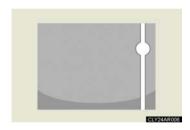
■ Rear view monitor system camera



In the following cases, it may become difficult to see the images on the screen, even when the system is functioning correctly:

- The vehicle is in a dark area, such as at night.
- The temperature near the lens is extremely high or low.
- Water droplets are on the camera lens or humidity is high, such as when it rains.
- Foreign matter, such as snow or mud, adheres to the camera lens.
- The sun or headlights are shining directly into the camera lens.

■ Smear effect



If a bright light, such as sunlight reflected off the vehicle body, is picked up by the camera, a smear effect* characteristic to the camera may occur.

*: Smear effect — A phenomenon that occurs when a bright light is picked up by the camera; when transmitted by the camera, the light source appears to have a vertical streak above and below it.

- When using the rear view monitor system, observe the following precautions to avoid an accident that could result in death or serious injuries:
 - Never depend solely on the monitor system when reversing.
 - Always check visually and with the mirrors to confirm your intended path is clear.
 - Depicted distances between objects and flat surfaces differ from actual distances.
- Conditions which may affect the rear view monitor system
 - If the back of the vehicle has been hit, the camera's position and mounting angle may have changed. Have the vehicle inspected by your Lexus dealer.
 - Rapid temperature changes, such as when hot water is poured on the vehicle in cold weather, may cause the system to function abnormally.
 - If the camera lens is dirty, it cannot transmit a clear image. Rinse with water and wipe with a soft cloth. If extremely dirty, wash with a mild cleanser and rinse.
 - The displayed image may be darker and moving images may be slightly distorted when the system is cold.

Driving assist systems

To help enhance driving safety and performance, the following systems operate automatically in response to various driving situations. Be aware, however, that these systems are supplementary and should not be relied upon too heavily when operating the vehicle.

ABS (Anti-lock Brake System)

Helps to prevent wheel lock when the brakes are applied suddenly, or if the brakes are applied while driving on a slippery road surface

■ Brake assist

Generates an increased level of braking force after the brake pedal is depressed, when the system detects a panic stop situation

■ VSC (Vehicle Stability Control)

Helps the driver to control skidding when swerving suddenly or turning on slippery road surfaces

■ TRAC (Traction Control)

Helps to maintain drive power and prevent the drive wheels from spinning when starting the vehicle or accelerating on slippery roads

■ Hill-start assist control

 \rightarrow P. 253

■ EPS (Electric Power Steering)

Employs an electric motor to reduce the amount of effort needed to turn the steering wheel

Active torque control 4WD system (AWD models only)

Automatically switches from front-wheel drive to AWD (All-Wheel Drive) according to driving conditions, helping to ensure reliable handling and stability. Examples of conditions where the system will switch to AWD are when cornering, going uphill, starting off or accelerating, and when the road surface is slippery due to snow or rain etc.

■ Enhanced VSC (Enhanced vehicle stability control)

Provides cooperative control of the ABS, TRAC, VSC and EPS. Helps to maintain directional stability when swerving on slippery road surfaces by controlling steering performance.

- VDIM (Vehicle Dynamics Integrated Management) (if equipped)

 Provides integrated control of the ABS, brake assist, TRAC, VSC, enhanced VSC, and hill-start assist control systems.

 Helps to maintain vehicle stability when swerving on slippery road surfaces by controlling the brakes and engine output.
- PCS (Pre-Collision System) (if equipped)

 \rightarrow P. 255

When the VSC/TRAC systems are operating



If the vehicle is in danger of slipping or rolling backward when starting on an incline, or if any of the drive wheels spins, the slip indicator light flashes to indicate that the VSC/TRAC systems are operating.

Disabling the TRAC/VSC systems

If the vehicle gets stuck in fresh snow or mud, the TRAC/VSC systems may reduce power from the engine to the wheels. You may need to turn the system off to enable you to rock the vehicle in order to free it.

■ Turning off the TRAC system only



To turn the TRAC system off, quickly press and release the switch.

A message will be shown on the multi-information display.

Press the switch again to turn the system back on.

Turning off both TRAC and VSC systems



To turn the TRAC and VSC systems off, press and hold the switch for 3 seconds or more while the vehicle is stopped.

A message will be shown on the multi-information display and VSC off indicator light will come on.

Press the switch again to turn the systems back on.

■ When the message is displayed on the multi-information display showing that TRAC has been disabled even if the VSC off switch has not been pressed

TRAC and hill-start assist control cannot be operated. Contact your Lexus dealer.

- Sounds and vibrations caused by the ABS, brake assist, VSC and TRAC systems
 - A sound may be heard from the engine compartment when the engine is started or just after the vehicle begins to move. This sound does not indicate that a malfunction has occurred in any of these systems.
 - Any of the following conditions may occur when the above systems are operating. None of these indicates that a malfunction has occurred.
 - Vibrations may be felt through the vehicle body and steering.
 - A motor sound may be heard after the vehicle comes to a stop.
 - The brake pedal may pulsate slightly after the ABS is activated.
 - The brake pedal may move down slightly after the ABS is activated.

■ EPS operation sound

When the steering wheel is operated, a motor sound (whirring sound) may be heard. This does not indicate a malfunction.

- Reactivation of the TRAC /VSC systems after turning off the engine

 Turning off the engine after turning off the TRAC/VSC systems will automatically reactivate them.
- Reactivation of the TRAC system linked to vehicle speed

When only the TRAC system is turned off, the TRAC system will turn on when vehicle speed increases. However, when both TRAC and VSC systems are turned off, the systems will not turn on even when vehicle speed increases.

■ Reduced effectiveness of the EPS system

The effectiveness of the EPS system is reduced to prevent the system from overheating when there is frequent steering input over an extended period of time. The steering wheel may feel heavy as a result. Should this occur, refrain from excessive steering input or stop the vehicle and turn the engine off. The EPS system should return to normal within 10 minutes.

- The ABS does not operate effectively when
 - Tires with inadequate gripping ability are used (such as excessively worn tires on a snow covered road).
 - The vehicle hydroplanes while driving at high speed on a wet or slick road.
- Stopping distance when the ABS is operating may exceed that of normal conditions

The ABS is not designed to shorten the vehicle's stopping distance. Always maintain a safe distance from the vehicle in front of you in the following situations:

- When driving on dirt, gravel or snow-covered roads
- When driving with tire chains
- When driving over bumps in the road
- When driving over roads with potholes or roads with uneven surfaces
- ■TRAC may not operate effectively when

Directional control and power may not be achievable while driving on slippery road surfaces, even if the TRAC system is operating.

Do not drive the vehicle in conditions where stability and power may be lost.

■ When the VSC is activated

The slip indicator light flashes. Always drive carefully. Reckless driving may cause an accident, resulting in death or serious injury. Exercise particular care when the indicator light flashes.

■ When the TRAC/VSC systems are turned off

Be especially careful and drive at a speed appropriate to the road conditions. As these are the systems to help enhance vehicle stability and driving force, do not turn the TRAC/VSC systems off unless necessary.

■ Replacing tires

Make sure that all tires are of the same size, brand, tread pattern and total load capacity. In addition, make sure that the tires are inflated to the recommended tire inflation pressure level.

The ABS and VSC systems will not function correctly if different tires are installed on the vehicle.

Contact your Lexus dealer for further information when replacing tires or wheels.

■ Handling of tires and suspension

Using tires with any kind of problem or modifying the suspension will affect the driving assist systems, and may cause a system malfunction.

All-wheel drive lock switch (AWD models)

All-wheel drive lock mode can be used when a large amount of drive power needs to be applied to all the wheels, such as when the vehicle gets stuck in mud and you need to free it.



Press the switch.

The torque of the engine is distributed to the rear wheels to the maximum extent possible in accordance with driving conditions.

Pressing the switch again cancels all-wheel drive lock mode and returns the active torque control 4WD system to normal mode. (→P. 246)

■ All-wheel drive lock mode

- All-wheel drive lock mode is canceled when the brakes are applied to ensure the ABS and VSC systems operate effectively.
- ullet All-wheel drive lock mode is canceled when the vehicle speed exceeds 25 mph (40 km/h).

Hill-start assist control helps to prevent the vehicle from rolling backwards when starting on an incline or slippery slope.



To engage hill-start assist control, further depress the brake pedal when the vehicle is stopped completely.

A buzzer will sound once to indicate the system is activated. The slip indicator will also start flashing.

■ Hill-start assist control can be operated when

- The shift lever is in a position other than P.
- The parking brake is not applied.
- The accelerator pedal is not depressed.

■ Hill-start assist control

- While hill-start assist control is operating, the brakes remain automatically applied after the driver releases the brake pedal. The stop lights and the high mounted stoplight turn on.
- Hill-start assist control operates for about 2 seconds after the brake pedal is released.
- If the slip indicator does not flash and the buzzer does not sound when the brake pedal is further depressed, slightly reduce the pressure on the brake pedal (do not allow the vehicle to roll backward) and then firmly depress it again. If the system still does not operate, check if the operating conditions explained above have been met.

■ Hill-start assist control buzzer

- When hill-start assist control is activated, the buzzer will sound once.
- In the following situations, hill-start assist control will be canceled and the buzzer will sound twice
 - No attempt is made to drive the vehicle within approximately 2 seconds of releasing the brake pedal.
 - The shift lever is moved to P
 - The parking brake is applied.
 - The brake pedal is depressed again.
 - The brake pedal has been depressed for more than approximately 3 minutes.
- If a buzzer other than the hill-start assist control buzzer is sounding, the hill-start assist control buzzer may not sound when the system is activated or canceled.

■ If the slip indicator comes on

It may indicate a malfunction in the system. Contact your Lexus dealer.

A CAUTION

Hill-start assist control

- Do not overly rely on hill-start assist control. Hill-start assist control may not operate effectively on extremely steep inclines or roads covered in ice.
- Unlike the parking brake, hill-start assist control is not intended to hold the vehicle stationary for an extended period of time. Do not attempt to use hill-start assist control to hold the vehicle on an incline for an extended period of time, as doing so may lead to an accident.

2-4. Using other driving systems Pre-Collision System*

When the radar sensor detects the possibility of a frontal collision, pre-collision system such as the brake assist and seat belts are automatically engaged to lessen impact and injuries to occupants as well as vehicle damage.

Pre-collision seat belts (front seat belt only)

If the pre-collision sensor detects that a collision is unavoidable, the pre-collision system will retract the seat belt before the collision occurs.

The same will happen if the driver makes an emergency braking or loses control of the vehicle. $(\rightarrow P. 85)$

However, the system will not operate in the event of skidding when the VSC system is disabled.

Pre-collision brake assist

When there is a high possibility of a frontal collision, the system applies greater braking force in relation to how strongly the brake pedal is depressed.

Radar sensor



The radar sensor detects vehicles or other obstacles on or near the road ahead and determines whether a collision is imminent based on the position, speed, and heading of the obstacles.

■ The pre-collision system is operational when

- Pre-collision seat belt (type A)
 - Vehicle speed is greater than about 4 mph (5 km/h).
 - The speed at which your vehicle is approaching the obstacle or oncoming vehicle is greater than about 19 mph (30 km/h).
 - · The front occupants are wearing a seat belt.
- Pre-collision seat belt (type B)
 - Vehicle speed is greater than about 19 mph (30 km/h).
 - The system detects sudden braking or skidding.
 - · The front occupants are wearing a seat belt.
- Pre-collision brake assist
 - Vehicle speed is greater than about 19 mph (30 km/h).
 - The speed at which your vehicle is approaching the obstacle or the vehicle running ahead of you is greater than about 19 mph (30 km/h).
 - The brake pedal is depressed.

Conditions that may trigger the system even if there is no possibility of collision

- When there is an object by the roadside at the entrance to a curve
- When passing an oncoming vehicle on a curve
- When driving over a narrow iron bridge
- When there is a metal object on the road surface
- When driving on an uneven road surface
- When passing an oncoming vehicle on a left-turn
- When your vehicle rapidly closes on the vehicle in front
- When a grade separation/interchange, sign, billboard, or other structure appears to be directly in the vehicle's line of travel.
- When a billboard or other metallic structure appears to be in the vehicle's direct line of travel due to driving on a hill.
- When an extreme change in vehicle height occurs
- When the axis of the radar is out of adjustment
- When passing through certain toll gates
- When driving on a bridge.

When the system is activated in the situations described above, there is also a possibility that the seat belts will retract quickly and the brakes will be applied with a force greater than normal. When the seat belt is locked in the retracted position, stop the vehicle in a safe place, release the seat belt and refasten it.

Obstacles not detected

The sensor cannot detect plastic obstacles such as traffic cones. There may also be occasions when the sensor cannot detect pedestrians, animals, bicycles, motorcycles, trees, or snowdrifts.

■ When there is a malfunction in the system

Warning lights and/or warning messages will turn on or flash. $(\rightarrow P. 557, 568)$

■ Situations in which the pre-collision system does not function properly

The system may not function effectively in situations such as the following:

- On roads with sharp bends or uneven surfaces
- If a vehicle suddenly moves in front of your vehicle, such as at an intersection
- If a vehicle suddenly cuts in front of your vehicle, such as when overtaking
- In inclement weather such as heavy rain, fog, snow or sand storms
- lacktriangle When your vehicle is skidding with the VSC system off
- When an extreme change in vehicle height occurs
- \bullet When the axis of the radar is out of adjustment

Automatic cancelation of the pre-collision safety system

When a malfunction occurs due to sensor contamination, etc. that results in the sensors being unable to detect obstacles, the pre-collision safety system will be automatically disabled. In this case, the system will not activate even if there is a collision possibility.

■ Certification

► For vehicles sold in U.S.A.

FCC ID: HYQDNMWR005

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC WARNING

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Radiofrequency radiation exposure Information:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance of 20 cm between the radiator (antenna) and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

► For vehicles sold in Canada

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

■ Limitations of the pre-collision system

Do not overly rely on the pre-collision system. Always drive safely, taking care to observe your surroundings and checking for any obstacles or other road hazards.

Failure to do so may cause an accident resulting in death or serious injury.

■ When the sensor may not be correctly detecting the vehicle ahead

Apply the brakes as necessary in any of the following situations.

- When water or snow thrown up by the surrounding vehicles hinders the functioning of the sensor
- When your vehicle is pointing upwards (caused by a heavy load in the luggage compartment etc.)
- Vehicles that cut in suddenly
- Vehicles with small rear ends (trailers with no load on board etc.)
- Motorcycles traveling in the same lane

■ Handling the radar sensor

Observe the following to ensure the pre-collision system can function effectively:

- Keep the sensor and front grille clean at all times.
 Clean the sensor and front grille with a soft cloth so you do not mark or damage them.
- Do not subject the sensor or surrounding area to a strong impact. If the sensor moves even slightly off position, the system may become inaccurate or malfunction. If the sensor or surrounding area is subject to a strong impact, always have the area inspected and adjusted by your Lexus dealer.
- Do not disassemble the sensor.
- Do not attach accessories or stickers to the sensor, grille or surrounding area.
- Do not modify or paint the sensor and grille cover.